Chapter 7 Communication and Education

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Communication

This chapter describes tools, goals, and media for communicating information about climate change adaptation to multiple audiences. The communication of coastal adaptation efforts is paramount to fostering a basic understanding of ways in which to adapt, restore, and protect coastal environments from the effects of climate change.

Given the number of ways in which climate change is currently affecting our coastal environments—sea level rise, ocean acidificat on, shoreline erosion, and increased storminess—the need for adaptation will only continue to grow. The National Park Service (NPS) has the responsibility to protect not only the habitats found along the coastlines, but also coastal processes, biodiversity, visitor facilities and opportunities, and archeological sites. Innovative, cost-effective ways to adapt to the ever-changing conditions are necessary to minimize these negative effects.

Communication about existing coastal adaptation efforts will encourage successful proactive adaptation by providing the following: the necessary framework for managers to apply to decision making for other areas being affected by climate change; an opportunity to promote and build stakeholder support for the steps taken to protect resources; ways to foster collaboration between parks and park partners; an examination of vulnerability pertaining to various areas; education to the general public about climate change and the ways of combating its effects; and an opportunity to publicize success stories regarding coastal adaptation efforts.

A variety of products can effectively communicate coastal adaptation efforts. Many of these products can be used broadly, for multiple uses and audiences. Most NPS sites already have trained communication experts in-house as part of their interpretive staff. It is highly recommended that resource managers work with interpretive staff to create the most appropriate and effective communication possible. In the event that a park does not have in-house interpretive capacity, the regional office or he NPS Harpers Ferry Center would be next options for the creation of these products.

Effective communication is best achieved by using the NPS graphic identity guidelines to ensure uniformity. The NPS brand is widely recognized and trusted, and, as such, adherence to these principles will help to embolden the message parks are looking to convey. These standards include guidance on the correct usage of the arrowhead, the correct fonts to be used, and the formats to use to achieve the greatest level of success. These guidelines used in conjunction with this handbook serve as a starting point for the creation of successful communications. The standards and templates can be found at http://www.nps.gov/hfc/services/identity/.

Site Bulletins

Site bulletins are materials that are created and produced in-house and are intended for short-term use. These site bulletins allow for the rapid transmission of information, can be used by a wide range of audiences, and are usually produced in black and white. The template brings uniformity to the presentation of information. This type of product is ideal for disseminating success stories on a small scale, highlighting a specific roject or action taken, providing general understanding of impacts and solutions, conveying management philosophies regarding specific abitats, and providing updates on the implementation of post-storm recovery actions.

An example of a site bulletin from Assateague Island (figu e 7.1) can be found at: http://ian.umces.edu/pdfs/ian_newsletter_380.pdf.

Figure 7.1. Example of a site bulletin from Assateague Island.

Rack Cards

Whereas site bulletins are designed for in-house production and use, rack cards are used for off-site promotional efforts. Typically, these are distributed to the local community and to other partners. Similar to site bulletins, rack cards are designed for the transmission of simple and easy-to-understand information. These publications are ideal for fostering collaboration with partners, promoting success stories, highlighting upcoming projects, and educating the general public about issues and proposed actions.

Figure 7.2. Example of a rack card from Assateague Island.

A template for this type of publication can be found on the graphic identity website. It is highly recommended that parks use this template to ensure uniformity.

An example of a rack card from Assateague Island (figu e 7.2) can be found at: http://ian.umces.edu/pdfs/ian_brochure_391.pdf.

Waysides

Waysides are a fantastic tool to use for longer-term dissemination of information to the public. They are site-specific, o tdoor interpretive exhibits designed to be simple in form and function. There are two types of waysides that can be used: (1) a low-profile e hibit, used for aspects that are readily visible to the visitor, or (2) an upright exhibit, designed to provide information about an entire area, trail, or habitat type. Keeping in line with the tenets of the site bulletin and the rack card, waysides are designed to convey simple and easy-to-understand information. Complex issues or processes should be included in other types of media.

Examples of climate related waysides from Dry Tortugas National Park and Gulf Islands National Seashore are shown in figu e 7.3.

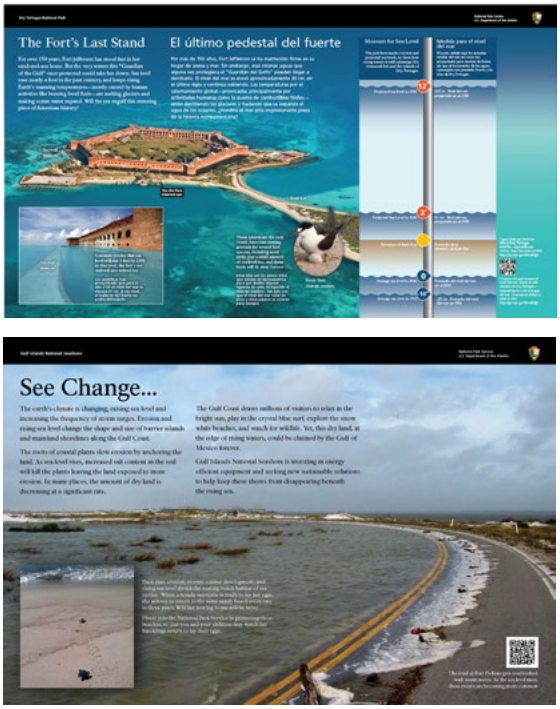

Figure 7.3. Example waysides from: a) Dry Tortugas National Park, and b) Gulf Islands National Seashore

Audio/Visual Arts

A different way to communicate the work being done at park sites is through web videos or audio/visual products. Videos give an opportunity to transmit information not just with written words, but with images as well. This tool can be incorporated either through the park's webpage, or through an offi al YouTube page. This type of media allows for more complex and technical information to be conveyed and can be used when site bulletins or waysides are not the appropriate choice for information sharing.

The Climate Change Response Program (CCRP) has a YouTube account with many videos that highlight what these products may be used for, including examples specific to sea level rise and coastal park adaptation projects. It is recommended that park managers frequently check this site for updated videos and that parks share their climate change videos here as they develop their own.

Although there are no established standards regarding content in audio/visual products, there are standards that apply to the fi al product. These standards will help to unify the brand of NPS videos. You may view this standardized process by following this link: http://www.nps.gov/hfc/acquisition/pdf/standard-specs-av-production.pdf.

Newspapers/Newsletters

Coastal adaptation projects may take several months or even years to complete. Newsletters are a great way to communicate about the status of these ongoing projects. Newspapers, newsletters, and e-newsletters can provide more in-depth examinations of the project that consider the issues surrounding the project and the steps being taken to mitigate those issues. These newsletters can be a one-time use product, or can be part of an on-going series to match the pace of the project.

An example of a climate-focused park newspaper (figu e 7.4) can be found at the following link: http://www.nps.gov/hfc/services/identity/downloads/templates/2013/NPS_Newspaper25x17.zip

Figure 7.4. An example of a park newspaper from San Francisco Maritime National Historical Park.

Another example of a newsletter is from the NPS Southeast Region Newsletter (figu e 7.5), which can be found at http://api.ning.com/files/YIi6je0KpJOsrnbBJB7WKvgiFhpF-vhoL5RzBvNMieuq6ZQYuFFmiVGGXYspnMONKmFE*Xfo*1fhN6yA04IAmS8NashMbcU2*/SoutheastRegionClimateChangeNewsletter_Winter2014_2015_Final.pdf.

Figure 7.5. NPS Southeast Regional Newsletter.

Twitter/Facebook and Social Media

One of the newest and highly utilized forms of communication is social media. The speed at which information can be relayed and the general acceptance of that information makes it an indispensable tool. Coastal change is a certainty, and social media provides an opportunity to react to ever-changing conditions in real time.

Currently, there are four approved social media sites for the NPS: Facebook, Twitter, YouTube, and Flickr. These four sites have vastly different uses and each can provide a tailored product for the intended audience:

- **Facebook** – an online community where people anywhere in the world go to stay connected with family, friends, colleagues, and organizations. The main use of this site is to provide subscribers with news updates, information, events, and announcements. The NPS Ocean and Coastal Facebook page is a closed group to which you can request to be added.
- **Twitter** – a "microblogging" site that is a shorter form of a blog. Twitter allows the use of only 140 characters per statement (tweet), so precise choice in words is essential for an effective tweet.

- **YouTube** – the world's largest video sharing website. It should be the "second stop" when posting videos after the site's main webpage.
- **Flickr** – one of the world's largest photo sharing communities. This site allows only still images to be posted and does not have a video posting option. Several King Tides Flickr photo sharing groups provide a way for volunteers to help visualize what sea level rise may look like in the future by sharing photos taken during the highest tides each year (e.g., Washington State https://www.fl ckr.com/groups/1611274@N22/.

Some guidelines to keep in mind when using social media include:

- Only post information, images, and videos that are publicly available. Do not post anything that is related to a pending lawsuit, contains personally identifia le information, or is classified
- Be aware that the entire notion of social media is for the interaction of groups, and, as such, comments from the audience are a part of that interaction. These comments can be both positive and negative. Please use tact and caution when replying to negative comments, as these are still part of the conversation. If in doubt on how to respond, refer to the NPS policy on social media relations: https://www.nps.gov/policy/Socialmedia.pdf.
- Be sure that no commercial advertising appears on the site.

For more in-depth guidance on how to effectively use social media please see "Social Media: A Guide to Tools and Strategies" http://share.inside.nps.gov/sites/Web/Documents/Social%20Media/NPS_SocialMediaGuideforToolsStrategies.pdf (*NPS internal access only)*.

Case Study Review

Communication is different from interpretation. Communication is the transmission of information, whereas interpretation ensures that the audience makes a connection. Not all communication needs to be interpretive. Many of the strategies described in this chapter have strong interpretive opportunities. One method that focuses more on communication than on interpretation is a case study review, which can disseminate high-priority, current natural resource management information with managerial application.

A case study is an explanatory analysis of a person, group, or event. Case studies use scientific anguage to describe issues and the steps taken to address those issues. This allows decision makers to frame their decision in terms of the successes and failures of similar issues. When the audience is composed mostly of resource managers, this type of communication is among the best choices; however, it is probably not the best selection for the general public.

When putting a case study review together, there are a few guidelines to help ensure the product is as effective as possible:

1. Read and examine the cases thoroughly.
2. Focus on the analysis.
    A. What were the major issues?
    B. What caused these issues?
    C. How did they impact the area?
3. Uncover the solutions.
4. Identify the best solution and transmit supporting evidence, pros and cons, and the possibilities of success elsewhere.

Case study analyses bring together a number of different case studies for comparison to one another. Typically, case studies included in the analysis are of a similar focus to highlight similar problems with different solutions. Collaboration is key when crafting a case study analysis; contact other sites to ensure that information presented is verified a d that the most robust analysis possible is attained.

In addition to the case studies in the "Coastal Adaptation Strategies: Case Studies," (Schupp, Beavers, and Caff ey 2015) a few examples of climate related case studies can be found at the following links:

http://ncptt.nps.gov/blog/climate-change-strategy-for-cultural-landscapes/

http://ncptt.nps.gov/blog/climate-change-at-el-morro/

http://ncptt.nps.gov/blog/climate-change-at-dry-tortugas/

General Recommendations

It is worth noting that not all communication will focus on outcomes. Climate adaptation work often hinges on the unknown. There is no way of telling how a storm will alter a coastal environment, or how far-reaching storm surge effects will be. As a result, the communication of the unknown is valuable, and in many ways can have the same impact as the communication of observed results.

Here are fi e tips for effective communication about adaptation:

1. Balance urgency with hope.
2. Tailor communication to your audience.
3. Emphasize preparedness, risk reduction, and a healthy future.
4. Avoid jargon.
5. Make it personal, local, and timely.

Education

The communication of previous efforts is not the only way to share the success stories of coastal adaptation. When projects have a modicum of success, there is a unique opportunity to be able to share those successes in an educational setting. The great American psychiatrist William Glasser once said, "95% of what we learn is what we teach others." The sharing of success through education not only helps to teach others, but also helps to embolden the efforts parks have already undertaken.

The National Park Service holds a unique position as one of the world's leading organizations for informal learning. Park visitors, partners, stakeholders, and the general public all look to the National Park Service for leadership in professionalism, education, and connections to these special places. This puts the organization in a position to educate a diverse grouping of audiences through an array of media. These educational opportunities will help to strengthen coastal communities by freely sharing information, lessons learned, and success stories.

There are a variety of products that can be used effectively to teach the stories of coastal adaptation. Keep in mind that not all education opportunities need to focus on a specific project. Sharing the processes, science, possible actions to be taken, and general understanding of climate change are possible ways to educate those who are interested. The following sections will highlight several ways to incorporate educational opportunities in park communication efforts.

Webinars

A webinar is similar to a seminar with the exception that it uses computers and the internet to make the connection instead of bringing the participants together physically. As a seminar is essentially a group of people coming together to discuss and learn, a webinar is a much more cost-effective and time-effective way to have a similar experience. Webinars are also convenient and easy to use, and reduce greenhouse gas (GHG) emissions by reducing travel.

For examples of how a webinar could work, check the NPS website, which links to completed webinars. Additionally, the CCRP currently has a monthly webinar series related to climate news and scientists.

Websites

Similar to how a newsletter can provide greater and more in-depth information about a topic, a website allows you to provide additional information about a topic. A dedicated website allows close work with partners and stakeholders to create a resource from which the audience can learn based on individual speed and interest. One of the main benefits o a dedicated website is that it allows for a broad range of resources to be brought together in one area for ease of access. It also allows for a great diversity of collaborators to provide the framework necessary to convey the desired messages.

For an example of a dedicated website, see the Teach Ocean Science website (figu e 7.6) that Assateague Island National Seashore, National Science Foundation, and the Integration & Application Network at the University of Maryland Center for Environmental Science partnered together to create. It is available at the following link: http://www.teachoceanscience.net/teaching_resources/education_modules/barrier_islands_and_sea_level_rise/get_started#

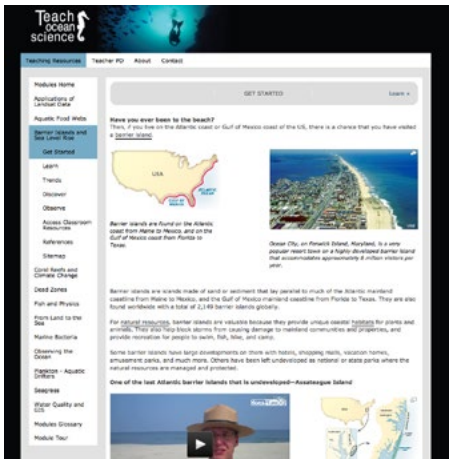

Figure 7.6. An example of a website: Teach Ocean Science.

Online Courses

Online courses are a fantastic way to teach and train others about coastal adaptation efforts. These courses provide more information than a webinar and allow for more interaction between the participants and the instructors/presenters. They also provide the ability to check the audience's comprehension of the topics covered. Online classes operate in a way similar to in-person classes, with a great deal more flexi ility and cost savings and the added benefit o GHG emissions saving. Once these courses have been created, they can be used over and over until updating is needed or the information becomes irrelevant. There is also a greater deal of flexi ility with online courses as participants can take these courses at their leisure. These attributes afford online classes more depth in the information being presented, and tend to produce more attrition from the participants than a webinar.

Online courses, however, do require more planning and effort to create than a webinar and potentially more than planning an in-person course, and this should be taken into account when creating online courses. Planning is essential when creating an online course. Planning should not be limited to the content but also on the way information retention is tested. Having a solid plan of what the goals are for any online course is a necessity.

Climate Friendly Parks Workshops

In 2000, the Climate Friendly Parks (CFP) plan was created to hold workshops to discuss sustainability options for individual NPS sites. Each workshop includes staff training, carbon management inventory, action planning, technical assistance, national recognition, and education and outreach products. These workshops have detailed content, akin to that included in webinars and online courses, and they focus on the specific pa k setting. While these workshops primarily provide parks with management tools and resources to address the mitigation aspect of climate change, communication has always been a major focus, and more recent efforts to integrate adaptation have shown this venue is an ideal entrée for developing coastal adaptation efforts. Cape Hatteras National Seashore is an example of one of the fir t CFP Action Plans that include adaptation actions (figu e 7.7).

The dedicated CFP staff can assist in planning and hosting a workshop, which requires approximately four months of planning. There are several areas in which the CFP staff can help:

- Inventory support. The technical experts help guide parks through conducting a GHG emissions inventory using the Climate Leadership in Parks (CLIP) tool.
- Action planning support. Technical experts can help to develop a strategic plan to address climate and sustainability issues. This section is ideal for coastal adaptation as it allows action items to be included in environmental management systems (EMS).
- Education and outreach support. The team and regional partners can help create outreach strategies to promote climate change efforts and educate visitors about their contributions to sustainability goals.

At the end of a CFP process, it is possible to have the site named a Climate Friendly Park. This national recognition can help embolden the efforts of implementing the park plan and combating climate change.

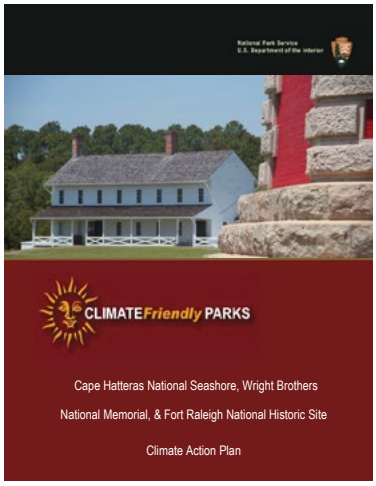

Figure 7.7. Cape Hatteras Climate Friendly Parks Action Plan.

Climate Smart Training

Climate-smart conservation (see chapters 3 and 4) is the intentional and deliberate consideration of climate change in natural resource management, realized through adopting forward-looking goals and explicitly linking strategies to key climate impacts and vulnerabilities.

The Climate-Smart Conservation trainings based on the guidance document *Climate-Smart Conservation: Putting Adaptation Principles into Practice* (Stein et al. 2014) are being offered through the National Conservation Training Center several times a year. This training helps to serve natural resource managers with the following objectives:

Design adaptation planning processes that are relevant at multiple scales to:

- Evaluate conservation goals from a climate change perspective.
- Explain how climate change vulnerability assessments, scenario planning, and downscaled climate models inform adaptation.
- Describe the process for identifying possible adaptation options based on vulnerability information.
- Integrate climate adaptation into existing planning and decision-making processes and policies.

Take Home Messages

- At the heart of the variety of products covered in this section lies communication itself. These products merely serve as the vehicle to provide audiences with effective communication of the efforts made in coastal adaptation. The communication of success stories, both with other parks and with partners, will help build support for the implementation of adaptation strategies.
- Support of local communities, parks, partners, stakeholders, and the general public is necessary for the effective implementation of any adaptation strategy. Many times the effica of adaptation programs relies on the cooperation of a variety of interested parties. Communication is necessary to include stakeholder involvement, which is crucial for planning and managing for change.

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